

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay.

Claim 1 has been amended to eliminate an unnecessary limitation, that the apparatus of this invention is used for longitudinal slitting. Since the art cited against this case involves both transverse and longitudinal slitting, this feature was clearly given no patentable weight so taking it out of the claim does not constitute a new issue or open up a new field of search. No other changes have been made.

The principal distinction between the instant invention and the prior art, e.g. US patent 5,423,240 of DeTorre, is that the blade edge of the instant invention is plasma-hardened. The rejection states that the "method of how the cutting edge is manufactured does not further limit the structure."

While it is generally true (Ex Parte Fahrni 117 USPQ 119) that it is not permissible to define an apparatus or article of manufacture by the method of its manufacture, there is a distinct exception to this rule where it is impossible to define the exact structure in purely structural terms. This is the case here. In fact there is no basis in the statute for the statement that method

steps cannot be used to limit structure. Instead this is in fact permitted under certain circumstances.

A plasma hardened object is unlike anything else. The powder metallurgical steel of DeTorre is another substance that wears differently and is molecularly different from the plasma-hardened steel of the instant invention. The difference is important; otherwise there would be no need for this different hardening method. In other words, if a plasma-hardened steel blade were structurally identical to a powder metallurgical one, the complex and extremely costly process of plasma hardening would never have come into existence.


Going further, Ex Parte Donahey (126 USPQ 61) states that "if the examiner is of the view that a product-by-process claim is improper, he should state that in his opinion the product is capable of definition in terms of its physical or chemical character." This does not apply here, since even with sophisticated x-ray crystallographic analysis it is impossible to distinguish a plasma-hardened metal. The product here can only be defined by the process, so claim 17 is proper.

Alternately, of course, the examiner is welcome to suggest a claim that structurally describes a plasma-hardened

product to distinguish it over the powder metallurgical steel of the prior art.

Reconsideration and withdrawal of the final rejection is in order because this is a proper product-by-process claim, that is one where there is no other way to define the product.

Respectfully submitted,  
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Enclosures: None.